0.00

0.00

1B12-11-15

120

QC

\*120\*

Quality Control

QC2- Inspect parts off machine FAI/FAIB

Memo

,									DQA:	Date:	
NCR: Y	es / No				WORK ORDER NON-C	CONFO	RMANCE / U	PDATE			. , .
					1'		·		QA Closed:	Date:	7
Work Orde	·				DISPOSITION	ł		AGAINST DE	PARTMENT	/PROCESS	
Part N	lo			· · · · · · · · · · · · · · · · · · ·	Rework Scrap Use-as-is Work Order Update	Th€	Skid-tube  Machining ermoforming  Large Fab	Crosstube Small Fab Finishing Composite	Pro Rec/Sto	Engineering Quality Other	
Root				Descri	ption of work order update	Initial	Α	Action	Sign &		
Cause	Date	Step	Qty	C	or Non-conformance	Chief E	ng Des	scription	Date	Verification	QC Inspector
Ooc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training Unapproved											
· · · · · · · · · · · · · · · · · · ·					· F	AULT CA	TEGORY				
Landin	ng Gear		•		General		ILOOKI				
  -  -  -  -	Bending Centre Not Concentric to O/S Cracks Crushed/Crimped Cuffs Heat Treat Inspection Strip in Tube				Bend BOM/Route Broken/Damaged Burrs Contamination Countersink	Hard Inspe Instru Mair Mişla	Grain Hardware Inspection Incomplete Instructions Incomplete/Unclear Maintenance Mislabeled			tolerance ct issing  Wrong	Pressure/Forced Temperature/Cure Weld Wrong Stock Pulled
. }	Inspectio Ripples in	-	Tube	<u> </u>	Cut Too Short Drill Holes	Misre		L	Power Loss/	'Surge	Other
1	Linbbics ii	· Jena		1	D   III   I   O   C	1 10,1136	- `				

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Page 2

November-12-12 3:30:12 PM

**Required Date:** 03/12/2012

Item ID: **Revision ID:**  649.4813

Accept

\*N900040100\*

Setup Start

Item Name: **Start Date:** 

Shim

12/11/2012

**Start Qty: 20.00** Req'd Qty: 20.00

Cust Item ID:

**Customer:** 

Reference:

**Approvals:** 

Process Plan:

Date:

Tooling:

Date:

Date:

**SPC (Y/N):** 

Date: \_\_\_\_\_

Stop

Sequence ID/ Work Center ID 130

Operation Description

Set Up/ Run Hours Tool ID

Tool # Plan Code

Accept Qty

Reject Qty

Run

Reject Number Stamp

Insp.

\*130\*

Quality Control

Memo

QC8- Inspect parts - second check

140

Small Fab

\*140\* Small Fab

Memo FORM AS PER DWG 0.00

0.00

150

QC5- Inspect part completeness to step on W/O

\*150\*

QC

Quality Control

Memo

0.00

										DQA:	Date	
NCR:	Yes / No				WORK ORDER NON-	CON	FORN	MANCE / UP	DATE			
										QA Closed:	Date	· · · ·
Work Orde	er:				DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part N	No		-		Rework Scrap Use-as-is Work Order Update	Scrap Machining Small Fab Prod. Eng. Coor. Use-as-is Thermoforming Finishing Rec/Store/Packaging					Engineering Quality Other	
		,					<del> ,</del>			-		
Root		1			ption of work order update	1	itial		tion	Sign &	_	
Cause	Date	Step	Qty	(	or Non-conformance	Chie	ef Eng	Desc	ription	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling												
Operator	$\square$	Ĭ										
Material											٠	
Setup												
Other .											•	
Process												
Supplier	_											
Training	$\dashv$											
Unapproved	<u>L</u>	1	<u> </u>				CATE	CORV		<u> </u>		1
Londi					General	AULI	CATE	JURY				
Latiui	ng Gear Bending				Bend	Па	Grain			Ovalized	Г	Pressure/Forced
	Centre N	ot Conco	ntric to		BOM/Route	$\mathbf{H}$	lardwa	ro	<del> </del>	Over/Under	tolerance	Temperature/Cure
	<b>—</b>	or conce	וונווכ נט	<sup>5/3</sup>  -	Broken/Damaged	$\mathbf{H}$		on Incomplete	<u> </u>	Part Incorre	<del> -</del>	Weld
	Cracks				Burrs	$\mathbf{H}$	•	ions incomplete/l	Uncloar	Part Lost/Mi	<b>⊢</b>	Wrong Stock Pulled
	Crushed/Crimped.				Contamination	-	//ainte		Officieal	Part Moved	33111g	
Cuffs Heat Treat					Countersink	<b>⊢</b>	viaiiice Aislabe		<del> </del>	Positioned V	Vrong	
	Inspection Strip in Tube				Cut Too Short	<b>-</b>	Aisread		<b>-</b>	Power Loss/		Other
	Ripples in		iune	$\vdash$	Drill Holes	$\vdash$	offset		<u></u>	J. Ower coss/	Jui 86	Toulet
	Torque W		Extrusio	, <del> </del>	Drawing	Out of Calibration						
					10	1 I						

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Finish

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

• November-12-12 3:30:12 PM

Item ID: 649.4813 Accept \*N900040100\* Setup Start **Revision ID:** Item Name: Shim Start Date: 12/11/2012 **Start Qty: 20.00** Cust Item ID: **Required Date:** 03/12/2012 Req'd Qty: 20.00 **Customer:** Reference: Run Approvals: Process Plan: Date: Tooling: Date: QC: Date: SPC (Y/N): Date: Sequence ID/ **Operation** Set Up/ Tool # Plan Tool ID Reject Accept Reject Insp. Work Center ID Description **Run Hours** Qty Qty Number Stamp Code 160 Outsource process-Anodize per OSI017 4.1.10.1 0.00 \*160\* Outsource4 0.00 Memo Outsource process - Anodize 170 Receive & Inspect for Damage & Mat'l Certs 0.00 \*170\* Packaging 0.00 Memo Packaging 180 QC5- Inspect part completeness to step on W/O \*120\* Memo Quality Control

									DQA:	Date:	* *	
NCR:	res /	No			WORK ORDER NON-CONFORMANCE / UPDATE							
					-				QA Closed:	Date:	Ä	
Work Orde	er:				DISPOSITION			AGAINST DE	/PROCESS			
Part N	No				Rework Scrap Use-as-is Work Order Update	4 1	Skid-tube  Machining  noforming  Large Fab	Crosstube Small Fab Finishing Composite	Pro Rec/Sto	Engineering Quality Other		
Root				Descri	ption of work order update	Initial	Actio	n	Sign &			
Cause	Da	te Ste	p Qty	- (	or Non-conformance	Chief Eng	Descrip	tion	Date	Verification	QC Inspector	
Doc/Data Equip/Tooling Operator Material Setup Other Process Supplier Training				tool	-1 for adhesion fest	W				135.01		
	<del></del>	·		<u> </u>	F,	AULT CATE	GORY			<u> </u>		
Landir	ng Gear Bend	ng			General	Grain	<u> </u>		Ovalized		Pressure/Forced	
	<del></del>	e Not Con	centric to	O/S	BOM/Route Broken/Damaged	Hardwa	ire ion Incomplete		Over/Under	<del> </del>	Temperature/Cure	
	<b></b>	ed/Crimpe	ed.		Burrs	<b></b>	ions Incomplete/Unc	clear	Part Lost/Mi		Wrong Stock Pulled	
Ì	Cuffs	·			Contamination	Mainte	•		Part Moved		<b>-</b>	
	Heat	Treat			Countersink	Mislabe	eled		Positioned V	Vrong		
	Inspe	ction Strip	in Tube		Cut Too Short	Misread			Power Loss/	Surge	Other	
	Rippl	es in Bend			Drill Holes	Offset	Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing Finish

November-12-12 3:30:12 PM Item ID: 649.4813 Accept \*N900040100\* Setup Start **Revision ID:** Item Name: Shim **Start Date:** 12/11/2012 Start Qty: 20.00 **Cust Item ID: Required Date:** 03/12/2012 Req'd Qty: 20.00 **Customer:** Reference: Run Process Plan: Approvals: Date: \_\_\_\_ Tooling: QC: \_\_\_\_\_ Date: \_\_\_\_ SPC (Y/N): Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Accept Reject Insp. **Work Center ID** Description **Run Hours** Code Oty Number Qty Stamp 190 0.00 \*190\* 38 SprayPaint 0.00 Spray Painting PRIME IAW MIL-P-23377J TYPE1 CLASS N AS PER DWG. (SEE NOTE 2) PRIMER BATCH: 125452 200 QC14- Inspect Spray Paint \*200\* QC Memo Quality Control Identify as per dwg & Stock Location: 139 210 \*210\*

Packaging

Packaging

Memo

0.00

\*\*\*IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV\*\*\*

NCR:	Yes	/(No)
NCR:	Yes	\((n)

## WORK ORDER NON-CONFORMANCE / UPDATE

1 /	r	
DQA: Date: 13/05/25	, .	
	,	
OA Closed: OA Closed: 12	*	

						-			QA Closed.	Or Date.	1/12ha :-		
Work Orde	er: 4	29:	30		DISPOSITION +e>tests		AGAINST DEPARTMENT/PROCESS						
	No. 12			13	Rework Skid-tube Crosstube Scrap Machining Small Fab			Small Fab Finishing	Water Jet Engineering Prod. Eng. Coor. Quality Rec/Store/Packaging Other Supplier				
Root				Descri	otion of work order update	Initial	Acti	ion	Sign &				
Cause	Date	Step	Qty	ď	or Non-conformance	Chief Eng	Descri	iption	Date	Verification	QC Inspector		
Equip/Tooling Operator	13-4-18	190	2	2 paritestiv	ts used for 19 -> Scrap	945)	Scrap		A1 13-4-18	<b>16</b>	(DAS 16		
Material Setup Other Process				L	For Albhisius Ponute	(3/04/19	adhesion p the other	t with conster, with out		13loula	Bloula		
Supplier Training Unapproved							-> Both part primed of 30 minute period	ter the					
					F/	AULT CATE			-				
Landir	ng Gear				General	, pr	).* . (i	W Jump	_	<u></u>	,		
	Bending Centre No	t Concer	ntric to (	o/s	Bend BOM/Route Broken/Damaged	Grain Hardwa	are ion Incomplete	15.40	Ovalized Over/Under Part Incorred	<del></del>	Pressure/Forced Temperature/Cure Weld		
	Crushed/0	Crimped.			Burrs	Instruc	tions Incomplete/U	Inclear	Part Lost/Mi	ssing	Wrong Stock Pulled		
	Cuffs	•			Contamination	Mainte	enange		Part Moved				
İ	Heat Trea	t			Countersink >	Mislab	eled		Positioned V	Vrong			
	Inspection	Strip in	Tube		Cut Too Short	Misrea	d \		Power Loss/		Other		
	Ripples in Bend				Drill Holes	Offset			FOR ten-	, Perpe only	1		
	Torque Waves in Extrusion				Drawing	Out of Calibration							
	Turning Se	equence			Finish	Out of Sequence							
[	Wave/Tw	ist in Tub	oe .		Folio	Outside	e Dimensions		-				

November-12-12 3:30:12 PM

Page 5

Item ID: 649.4813 Accept \*N900040100\* Setup Start **Revision ID:** Item Name: Shim **Start Date:** 12/11/2012 Start Qty: 20.00 Cust Item ID: **Required Date:** 03/12/2012 Req'd Qty: 20.00 **Customer:** Reference: Run Approvals: **Process Plan:** Date: Tooling: Date: QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Reject Reject Accept Insp. Work Center ID Description **Run Hours** Code Qty Number Stamp Qty 220 QC21- Final Inspection - Work Order Release 0.00 \*220\* 0.00 Memo Quality Control

MUJ 13-05-17

			MODIL ODDED MON CON
NCR:	Yes /	No	WORK ORDER NON-COM

DQA:	Date:		4.

NCR: Yes / No WORK ORDER NON-CONFORMANCE / UPDATE												
										QA Closed:	Date:	: 7
Work Orde	r:				DISPOSITION		•		AGAINST D	EPARTMENT,	PROCESS	
					Rework		Skid-tube Crosstube			].	Water Jet	Engineering
Part N	o				Scrap			Machining	Small Fab	<b>⊣</b>	d. Eng. Coor.	Quality
					Use-as-is	Thermoforming Finishing			Rec/Sto	e/Packaging	Other	
NCR N	o				Work Order Update	]		Large Fab	Composite	ا	Supplier	_
Root				Descri	ption of work order update	Initia	al	Acti	on	Sign &		
Cause	Date	Step	Qty	(	or Non-conformance	Chief	Eng	Descri	iption	Date	Verification	QC Inspector
Doc/Data												
Equip/Tooling						ł						
Operator	_											
Material										/		
Setup						1		-				
Other							Ì					
Process						1	Ì			1		
Supplier						j						
Training	_					]	Ì					
Unapproved		<u> </u>	<u> </u>			<u> </u>						
						AULT CA	ATEG	GORY			-	
Landin C	<del>- 1</del>			_	General				_	٦	<del>Γ</del> -	<b>-</b>
-	Bending				Bend	Gra				Ovalized	<u> </u>	Pressure/Forced
-	Centre No	ot Concer	ntric to (	D/S	BOM/Route	<del></del>	dwar		-	Over/Under	<u> </u>	Temperature/Cure
-	Cracks			<u> </u>	Broken/Damaged	_ `		on Incomplete		Part Incorre	—	Weld
	Crushed/0	Crimped.		L	Burrs	_		ons Incomplete/U	nclear	Part Lost/Mi	ssing	Wrong Stock Pulled
-	Cuffs				Contamination	$\vdash$		nance		Part Moved		
<u> </u>	Heat Trea			<u> </u>	Countersink	$\vdash$	label			Positioned V		<b>-</b>
-	Inspection	-	Tube	<u> </u>	Cut Too Short	$\vdash$	read		L	Power Loss/	Surge	Other
ļ_	Ripples in			<u> </u>	Drill Holes	Offs						
	Torque W		xtrusion	۱	Drawing	<del></del>		alibration				
L	Turning So				Finish	<b>—</b>		equence				· · · · · · · · · · · · · · · · · · ·
	Wave/Tw	ist in Tub	e		Folio	Outside Dimensions						

Work Order ID: 92930

Parent Item:

649.4813

Parent Item Name: Shim

\*92930\*

\*649 4813\*

**Start Date:** 12/11/2012

**Required Date:** 03/12/2012

Start Qty: 20.00

Required Qty: 20.00

**Comments:** 

IPP REV:A 12.11.01 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Statu Issued	s
M2024T3S.125		Purchased	No			110	sf	32.0000	0.0285	0.6	<i>(</i> ,	BZ-11-19	
*N/2004T2	C 4.0 E*								alasta.			10	

Mノロノ4 I 35 イック

Location	Loc Oty	Loc Code	(30)
MAT022	32		
123096	32		123096

											DQA:	Date.	• •	
NCR:	Yes	/ No				WORK ORDER NON-	CO	NFOR	MANCE / UPDATE		0.4. ()	Data		
				•		<u> </u>					QA Closed:	Date:	- 1	
Work Ord	er:				:	DISPOSITION			AGAINST DEPARTMENT/PROCESS					
Part No						Rework Scrap Use-as-is Work Order Update Skid-tube Machining Machining Small Fab Thermoforming Finishing Large Fab Composite			4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other			
Root					Descri	ption of work order update		Initial	Action		Sign &			
Cause		Date	Step	Qty	c	or Non-conformance	Cł	nief Eng	Description		Date	Verification	QC Inspector	
Doc/Data														
Equip/Tooling							1							
Operator														
Material		1												
Setup														
Other														
Process	П													
Supplier	П											·		
Training							l							
Unapproved	П						l							
						F.	AUI	LT CATE	GORY					
Landi	ng (	Gear				General								
	П	Bending				Bend		Grain			Ovalized		Pressure/Forced	
		Centre No	ot Conce	ntric to	o/s	BOM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure	
	Cracks					Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld	
	Crushed/Crimped					Burrs		4 `	ions Incomplete/Unclear		Part Lost/M	ssing	Wrong Stock Pulled	
	$\vdash$	Cuffs	•			Contamination		Mainte	•		Part Moved		<b>_</b>	
	П	Heat Trea	t			Countersink		Mislabe	led	Positioned Wrong				
		Inspection		Tube	1	Cut Too Short		Misread			Power Loss/		Other	

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

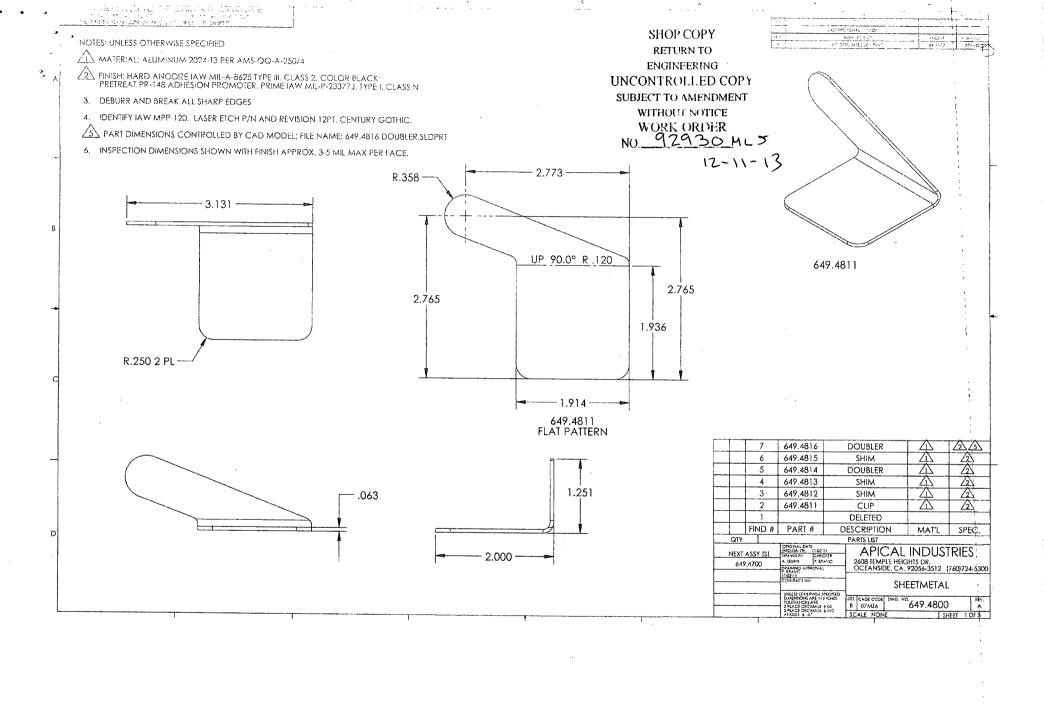
Ripples in Bend

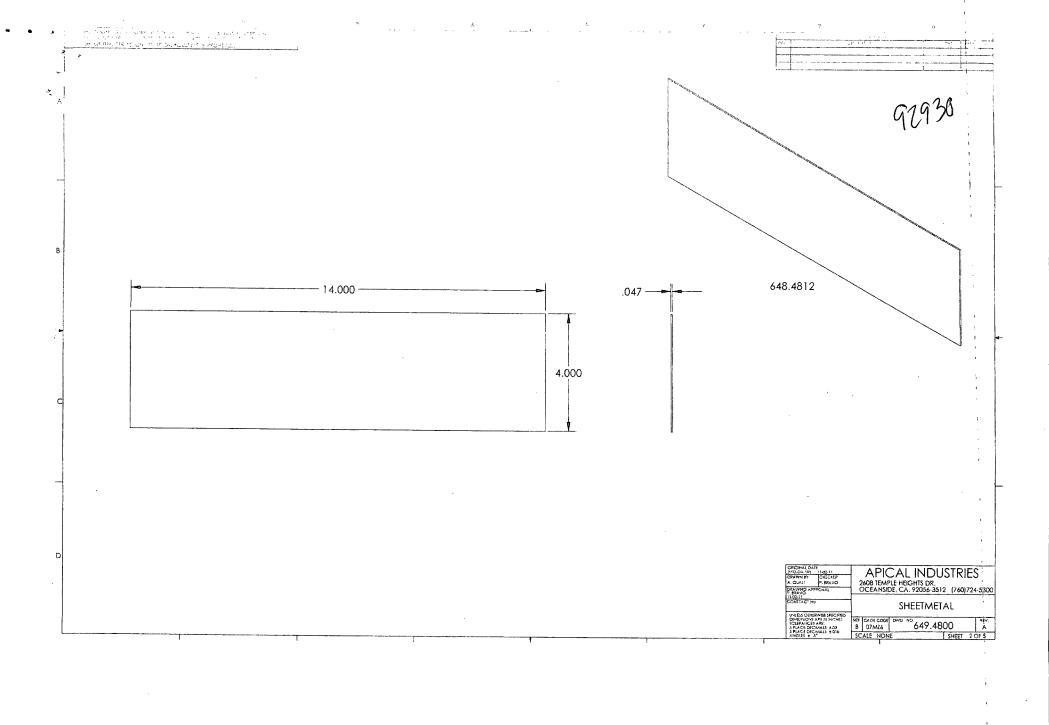
Torque Waves in Extrusion

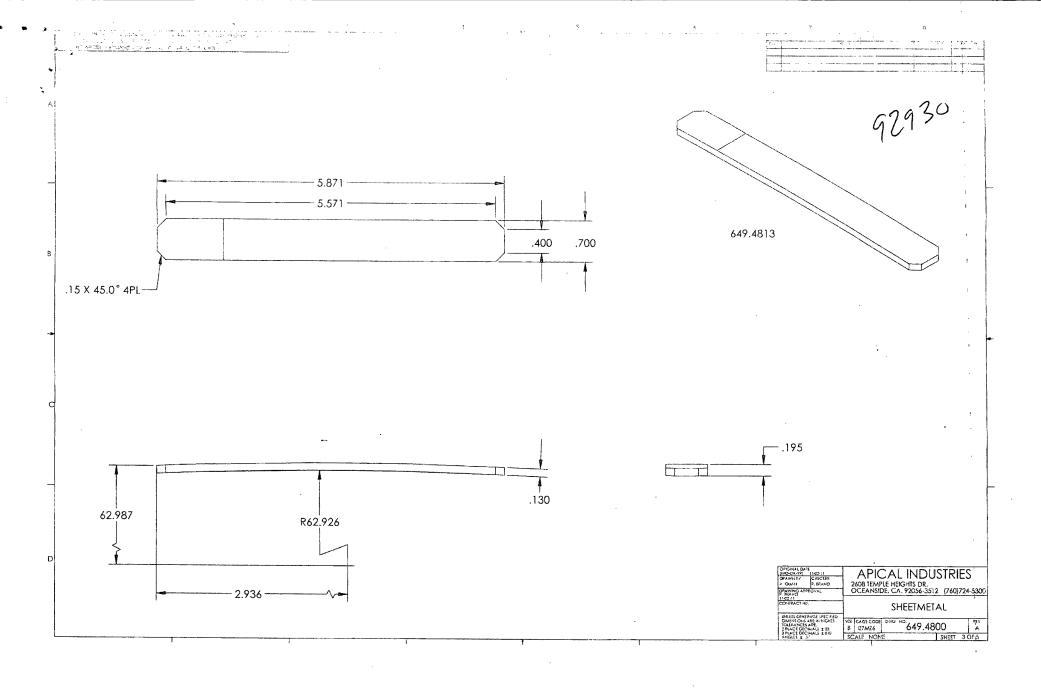
Drill Holes

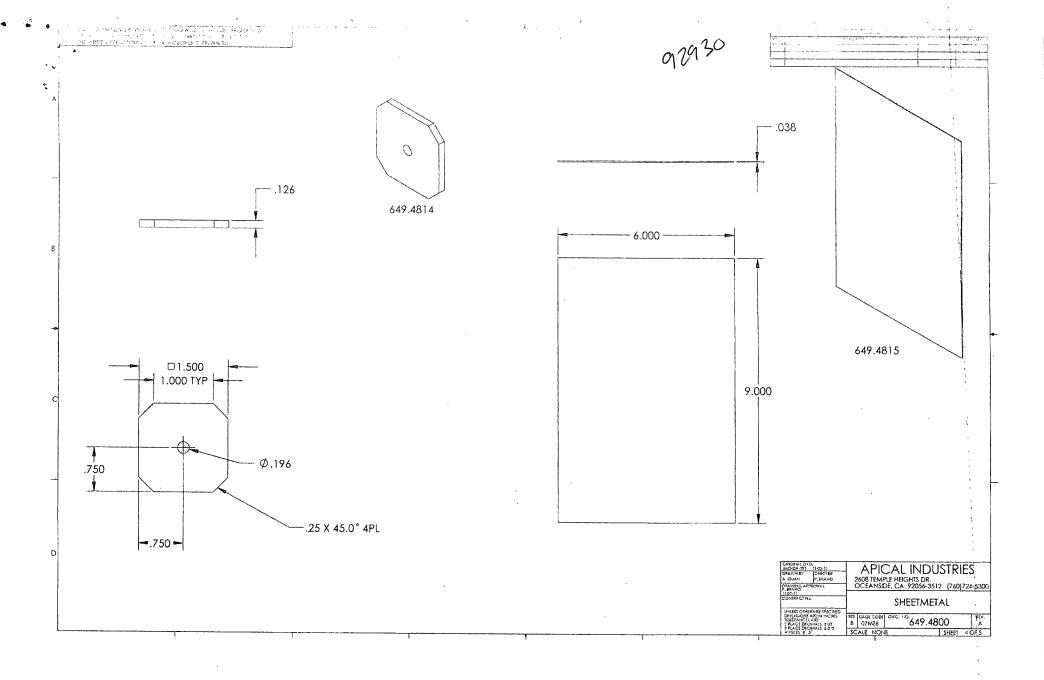
Drawing

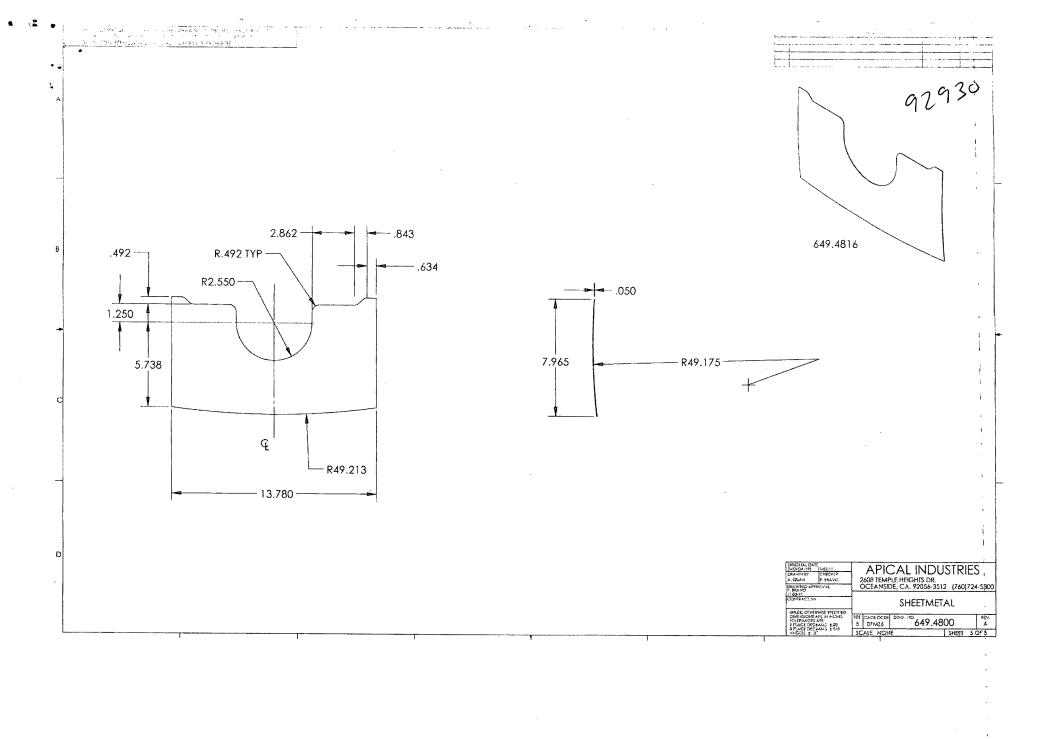
Finish











DART AEROSPACE LTD	Work Order:	92930
		, and the second
Description: SH(W)	Part Number:	649-4813
Inspection Dwg: ( 49-44) Rev: A		Page 1 of 1

## FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
	4 .005	5.869	۷		V 1302	
5.571 .400	4 .008	5.576	8		ν	
.400	7/ .005	-399	2		V	
	4 00%	703	2		V	
.130	t/ . ook	130	>		V	
		<u> </u>				
				-		
					<u> </u>	
			· ·			•
				<del> </del>		
	:		100 J.C.			
,				-1		
· .						
						·
*						
				11		
			1			

	DAG	
Measured by:	Audited by:	Preliminary Approval:
Date: 12-11-19	Date: 12 11 20	Date:

Rev	Date	Change		Revised by	Approved
E	10.04.14	Added preliminary approval	24.54	KJ	



A.T.G. Industries Inc. 731, rue Industrielle Rd. PLATING DEPARTMENT Rockland, On K4K 1T2 Canada

Ph: (613) 446-4544 Fax: (613) 446-4556

## Pack List

Number: 62212

Date: 13-Feb-13

To

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7 Canada

Ship To

DART AEROSPACE LTD 1270 ABERDEEN ST. HAWKESBURY, ON K6A 1K7

Canada

Ph: 613-632-5	200 Fax: 613-632-1185		Ph: 613-632-5200	Fax: 613-632-1185
Terms		Ship Via	······································	
Quantity	Description	<del></del>		
1	Part: ASST		Rev:	
lot			1100.	
	4 PCS 647.2010			
	14 PCS 647.2011	,		
	4 PCS 646.9910 4 PCS 647.1813			
	3 PCS 647.7915			
	8 PCS 649.4816		4.	
	170 PCS 646.9910			
	30 PCS 646.3715 4 PCS 647.7914			
	14 PCS 646.3713			
	41 PCS 649,4813			
	4 PCS 647.1910			
	16 PCS 646.9710	,		·
	HARD ANODIZE BLACK			
	MIL-A-8625 TYPE III CLASS 2			·
	Job: 20130090	PO: PO18829	Line:	
	Codifications			
	Certificate of Conf			
	A.T.G. Industries certifies that all items in	n this shipment are i	n conformance	
<i>'</i>	with all requirements, specifications and	drawings referenced	in the purchase order.	
	ISO 9001 : 2008 REG	ISTERED		
	/ ATG SALES-2010 TEI	RMS APPLY		
	DATE: /3/2//3			
	W			
	CERTIFIED SIGNATURE :			
	RECEIVER SIGNATURE :		_	
,				
		*		
1				
	1			